Workshop: Evidence-Based Tools for Working with Struggling Learners

Annotated Bibliography

General remediation resources

Kalet A, Chou C, eds. *Remediation in Medical Education: A Mid-Course Correction.* New York, NY: Springer; 2014.
A multi-chapter book; great all-around resource with information about remediation in general and then guidance for managing specific deficits.

Guerrasio J. *Remediation of the Struggling Medical Learner*. 2nd ed. Irwin, PA: Association for Hospital Medical Education; 2018.
Another great book that covers a wide range of remediation topics, including practical application, with a bit more emphasis on GME.

Kalet A, Guerrasio J, Chou C. Twelve tips for developing and maintaining a remediation program in medical education. *Med Teach.* 2016 Apr;38(8):787-92.
High-level recommendations for institutions on running remediation programs.

Patel RS, Tarrant C, Bonas S, Shaw RL. Medical students' personal experience of high-stakes failure: case studies using interpretative phenomenological analysis. BMC Med Educ. 2015 May 12;15:86.
Learners wanted less attention on knowledge and more attention on skills, their personal lives, and their emotions and mental health.

Guerrasio et al. Learner deficits and academic outcomes of medical students, residents, fellows, and attending physicians referred to a remediation program, 2006-2012. *Acad Med*. 2014 Feb;89(2):352-8.
Probably the largest collection of data on remediating learners; is only one institution but likely has wide applicability.

Hauer KE, Teherani A, Kerr KM, O'Sullivan PS, Irby DM. Student performance problems in medical school clinical skills assessments. *Acad Med*. 2007 Oct;82(10 Suppl):S69-72.
Reviews expert remediators' opinions on remediability of different types of deficits. Spoiler: professionalism problems are some of the hardest to remediate!

Saxena V, O'Sullivan PS, Teherani A, Irby DM, Hauer KE. Remediation techniques for student performance problems after a comprehensive clinical skills assessment. *Acad Med*. 2009 May;84(5):669-76.
Overview of remediation approaches across multiple institutions. Confidence in success is fairly low.

Pell G, Fuller R, Homer M, Roberts T. Is short-term remediation after OSCE failure sustained? A retrospective analysis of the longitudinal attainment of underperforming students in OSCE assessments. *Med Teach*. 2012;34(2):146-50
Provides evidence that gains from short-term interventions are unfortunately not sustained.

White CB, Ross PT, Gruppen LD. Remediating students' failed OSCE performances at one school: the effects of self-assessment, reflection, and feedback. *Acad Med*. 2009 May;84(5):651-4
Which is more effective: reflection and self-assessment or coaching/feedback? Results may feel surprising!

Boileau E, St-Onge C, Audétat MC. Is there a way for clinical teachers to assist struggling learners? A synthetic review of the literature. *Adv Med Educ Pract*. 2017 Jan 18;8:89-97.
What's reasonable to expect of on-the-ground educators (not remediation specialists)?

Guerrasio J, Furfari KA, Rosenthal LD, Nogar CL, Wray KW, Aagaard EM. Failure to fail: the institutional perspective. *Med Teach*. 2014 Sep;36(9):799-803.
Many institutions believe they graduate learners who are not safe to practice. Here's what they say about why.

Lavin B, Pangaro L. Internship ratings as a validity outcome measure for an evaluation system to identify inadequate clerkship performance. *Acad Med*. 1998 Sep;73(9):998-1002.
When we look back at struggling interns' clerkship evaluations from during med school we can sometimes see evidence of issues, but still 80% of the interns who needed remediation had only positive comments in their clerkship evaluations.

Hauer KE, Teherani A, Kerr KM, Irby DM, O'Sullivan PS. Consequences within medical schools for students with poor performance on a medical school standardized patient comprehensive assessment. *Acad Med*. 2009 May;84(5):663-8.
Next steps for students who perform poorly; most get remediation coaching but deans aren't confident it really works.

Rumack CM, Guerrasio J, Christensen A, Aagaard EM. Academic Remediation: Why Early Identification and Intervention Matters. *Acad Radiol*. 2017 Jun;24(6):730-733.
Arguments for early, proactive identification of struggling learners.

Hays RB, Jolly BC, Caldon LJ, McCrorie P, McAvoy PA, McManus IC, Rethans JJ. Is insight important? measuring capacity to change performance. *Med Educ*. 2002 Oct;36(10):965-71.
Interesting examination of the role of insight in the process.

Clinical reasoning

Guerrasio J, Aagaard EM. Methods and outcomes for the remediation of clinical reasoning. *J Gen Intern Med*. 2014 Dec;29(12):1607-14.
Reviews a successful 10-step approach to remediating clinical reasoning deficits at one institution.

Audetat MC et al. What is so difficult about managing clinical reasoning difficulties? *Med Educ*. 2012 Feb;46(2):216-27
Focus groups of clinician educators describe how they identify and manage clinical reasoning deficits.

Audetat MC.; Laurin S.; Dory V.; Charlin B.; Nendaz MR. Diagnosis and management of clinical reasoning difficulties: Part II. Clinical reasoning difficulties: Management and remediation strategies. *Medical Teacher*. 2017 Aug;39(8):797-801.
Practical tips on managing reasoning deficits.

Connor DM.; Dhaliwal G. When less is more for the struggling clinical reasoner. *Diagnosis.* 2015 Sep 1;2(3):159-162
A well-described and practical approach to managing reasoning challenges.

Communication

Chou CL.; Chang A.; Hauer KE. Remediation workshop for medical students in patient-doctor interaction skills. *Med Educ*. 2008 May;42(5):537.
Description of one effective approach.

Broadfoot K. Guerrasio J. Aagaard E. Beyond Procedures and Checklists: Using Simulation to Remediate Communication and Professional Skill Challenges. *SGIM Forum*. 2015;38(9):1, 10.
https://www.sgim.org/File%20Library/SGIM/Resource%20Library/Forum/2015/SGIMSep2015_01.pdf
Simulation is a very effective tool for teaching communication skills.

Pollack KI. Teaching effective communication by modeling effective communication: Experiences of a communication coach for clinicians. *Patient Educ Couns*. 2019 Aug 26. pii: S0738-3991(19)30364-7.
Some big take-home points in a very readable format.

Roter DL, et al. Improving physicians' interviewing skills and reducing patients' emotional distress. A randomized clinical trial. *Arch Intern Med*. 1995 Sep 25;155(17):1877-84.
Teaching clinicians to respond to patients' emotions is effective.

Niglio de Figueiredo, et al. ComOn-Coaching: The effect of a varied number of coaching sessions on transfer into clinical practice following communication skills training in oncology: Results of a randomized controlled trial. *PLoS One*. 2018 Oct 5;13(10):e0205315.
Multiple coaching sessions are better than one.

Engerer C, et al. Specific feedback makes medical students better communicators. *BMC Med Educ*. 2019 Feb 8;19(1):51.
Specific, structured, and behavior-orientated feedback is better than general, experience-orientated feedback in helping students improve.

Medical knowledge, test-taking

Gooding HC, Mann K, Armstrong E. Twelve tips for applying the science of learning to health professions education. *Med Teach*. 2017 Jan;39(1):26-31.
Great tips for helping learners leverage evidence-based learning strategies to improve studying and retention.

Winston KA, van der Vleuten CP, Scherpbier AJ. Prediction and prevention of failure: an early intervention to assist at-risk medical students. *Med Teach*. 2014 Jan;36(1):25-31.
Study looking at an intervention for students who failed an early test; comments on short-term vs long-term remediation, small-group vs large-group coaching, etc.

Cleland J, Leggett H, Sandars J, Costa MJ, Patel R, Moffat M. The remediation challenge: theoretical and methodological insights from a systematic review. *Med Educ*. 2013 Mar;47(3):242-51.
Systematic review of remediation approaches; ultimately concludes we need to focus on "learning to learning" rather than learning strategies to pass a re-test.

Andrews MA, Kelly WF, DeZee KJ. Why does this learner perform poorly on tests? Using self-regulated learning theory to diagnose the problem and implement solutions. *Acad Med*. 2018 Apr;93(4):612-615.
Describes a helpful new approach to learners who struggle with vignette-based exams.

Feinberg RA, Clauser AL. Can Item Keyword Feedback Help Remediate Knowledge Gaps? *J Grad Med Educ*. 2016 Oct;8(4):541-545.
Focusing on keywords didn't help a cohort of fellows with In-Training Exam failure.

Morgan KM, Northey EE, Khalil MK. The effect of near-peer tutoring on medical students' performance in anatomical and physiological sciences. *Clin Anat.* 2017 Oct;30(7):922-928.
Near-peer tutoring can be effective in remediating test-taking difficulties.

Professionalism

Ziring D, Danoff D, Grosseman S, Langer D, Esposito A, Jan MK, Rosenzweig S, Novack D. How Do Medical Schools Identify and Remediate Professionalism Lapses in Medical Students? A Study of U.S. and Canadian Medical Schools. *Acad Med.* 2015 Jul;90(7):913-20.
Good overview of medical schools' experiences trying to manage professionalism lapses.

Rougas S, Gentilesco B, Green E, Flores L. Twelve tips for addressing medical student and resident physician lapses in professionalism. *Med Teach*. 2015;37(10):901-7.
Guidance on managing professionalism issues, including specific language to use with learners.

Buchanan AO, Stallworth J, Christy C, Garfunkel LC, Hanson JL. Professionalism in practice: strategies for assessment, remediation, and promotion. *Pediatrics*. 2012 Mar;129(3):407-9.
A few practical tips, but mostly a helpful framework for thinking about and characterizing professionalism issues.

Hemmer PA, Hawkins R, Jackson JL, Pangaro LN. Assessing how well three evaluation methods detect deficiencies in medical students' professionalism in two settings of an internal medicine clerkship. *Acad Med*. 2000 Feb;75(2):167-73.
Supervisor numerical ratings vs written comments vs verbal comments: which are better?

Schwind CJ, Williams RG, Boehler ML, Dunnington GL. Do individual attendings' post-rotation performance ratings detect residents' clinical performance deficiencies? *Acad Med*. 2004 May;79(5):453-7.
Similar findings to the Hemmer paper above.

Barnhoorn PC et al. A practical framework for remediating unprofessional behavior and for developing professionalism competencies and a professional identity. *Med Teach.* 2019 Mar;41(3):303-308.
Describes an approach to professionalism remediation using a lens of professional identity formation.

Domen RE. et al. Assessment and Management of Professionalism Issues in Pathology Residency Training: Results From Surveys and a Workshop by the Graduate Medical Education Committee of the College of American Pathologists. *Academic Pathology*. 2015 Jul-Sep; 2(3).
Describes faculty development workshop on remediation professionalism issues, including specific cases that may be helpful in training other faculty.

Sanfey H. et al. Pursuing professional accountability: an evidence-based approach to addressing residents with behavioral problems. *Arch Surg*. 2012 Jul;147(7):642-7.

Thaxton RE, Jones WS, Hafferty FW, April CW, April MD. Self vs. Other Focus: Predicting Professionalism Remediation of Emergency Medicine Residents. *West J Emerg Med.* 2018 Jan;19(1):35-40.
Interesting theory about using personal characteristics to predict professionalism lapses.

Adams KE, Emmons S, Romm J. How resident unprofessional behavior is identified and managed: A program director survey. *Am J Obstet Gynecol*. 2008 Jun;198(6):692.e1–e5.

Guerrasio J, Aagaard EM. Long-Term Outcomes of a Simulation-Based Remediation for Residents and Faculty With Unprofessional Behavior. *JGME*. 2018 Dec;10(6):693-697.
Learners' and coaches' perspectives on the professionalism remediation process.

Bias and other systems issues relevant to assessment and remediation

Kelly S, Dennick R. Evidence of gender bias in true-false-abstain medical examinations. *BMC Med Educ*. 2009;9:32.

Teherani A, Hauer KE, Fernandez A, King TE Jr, Lucey C. How small differences in assessed clinical performance amplify to large differences in grades and awards: a cascade with serious consequences for students underrepresented in medicine. *Acad Med.* 2018 Sep;93(9):1286-1292.

Hauer K, Lucey C. Core Clerkship Grading: The Illusion of Objectivity. *Acad Med.* 2019 Apr;94(4):469-472.

Workshop: Evidence-Based Tools for Working with Struggling Learners

Small group break-out session #1 worksheet

Characterizing the "Struggle"

1. Is there a problem on the learner's end? What alternative (systems or other) issues might be at play?

2. How bad is this problem? When is the right time to intervene on this type of challenge?

3. What information do you need to gather to understand the problem fully, to inform your next steps? How will you get that information? What challenges do you anticipate in obtaining that information and how will you manage them?

Workshop: Evidence-based Tools for Working with Struggling Learners

Small group break-out session #2 worksheet

Addressing the "Struggle"

Consider and discuss various approaches to this learner's struggle:

Description of approach	Resources required	Pros of this approach	Cons of this approach

Select one approach to explore further.

What are the logistics of the approach?

When will the learner engage in the work? Do you need to protect time in the learner's schedule? Can the work happen concurrently with regular rotations or other curricular elements, or does the learner need to be pulled out of the regular curriculum?

Who will coach the learner? How will that person be selected and supported in this work?

If the learner will be doing any work separate from a coach, what is the accountability process for making sure it gets done?

Where will the work happen?

What steps will you take to protect learner confidentiality?

What is the timeline for the remediation? (How quickly can this get done, and how can the work be mapped out for the learner?)

What is your metric for success? How will you know if the problem has been sufficiently addressed?

Case—Student G
Part 1

Student G just finished her core clinical clerkships and is beginning a subinternship in General Surgery, which she hopes to apply into for residency. Her core clerkship grades were mostly Honors and she received strong evaluations from her supervisors. Early in this rotation, though, her attending notices she has trouble explaining her thinking when presenting her patients on morning rounds. She often identifies a symptom or syndrome but then trails off and looks expectantly at her resident to fill in an assessment of the problem. When pressed to "put her nickel down," she shifts uncomfortably and occasionally offers an idea but usually says, "I'm not sure."

Case—Student K
Part 1

Student K is a nurse practitioner student who has just begun a new inpatient rotation. Supervisors are reporting that K is "very awkward" with patients, often unable to explain medical conditions in a way the patients can understand or ignoring any expression of emotion or concern. They report she does not address their questions fully and that some patients have requested not to have her involved in their care. The supervisors think she is "super smart" and agree with her medical assessments but feel she cannot be allowed to interact with patients without direct, constant supervision.

Case—Student P
Part 1

P is a first-year medical student who has now failed his second exam for a major block in his pre-clinical curriculum and is referred for remediation. On review of his performance on all his (multiple-choice) block exams thus far, you note that he was 2 points below passing on his first exam, retook it, and achieved 1 point above passing on the re-test. On his second exam, he achieved a score just above passing. On this third test, he is now 5 points below passing and is being asked to sit for a re-test. His file reveals he received a very high score on his MCAT and had top marks from his undergrad studies in mathematics.

Case—Resident R
Part 1

R is a second-year resident who demonstrated average performance during intern year and was never on the program's radar for either concerns or exceptional performance. At the start of his R2 year, his clinic preceptors began to raise concerns that he was often late to clinic and then was behind seeing his patients all day. He then was rushed and insufficiently detailed in his presentations to his preceptors. When given feedback about this, he became defensive, stating that, "I was under the impression that as an R2 I didn't need so much hand-holding from attendings." He expressed that he was late due to "the terrible parking here" and felt this did not affect his patients because "they expect doctors to be late." Over the course of the several weeks after the issue was first raised with him, his behavior largely continued unchanged and he remained defensive and "not sure what's the big deal here."